

REMARKS

Applicant respectfully requests reconsideration and allowance of the subject application in view of the foregoing amendments and the following remarks.

Claims 1-39 are pending in the application, with claims 1, 22, and 37 being independent. Applicant amends claims 1, 22, and 37 to further clarify features of the claimed subject matter. The original specification and drawings support these claim amendments at least at pages 35, 36, and 43, in figures 16, 17, 18, and 27. Therefore, claims 1-39 are presented and directed to subject matter of the original disclosure.

NONSTATUTORY DOUBLE PATENTING REJECTIONS

A. **Claims 1-39** are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-32 of U.S. Patent No. 6,768,499 (hereinafter the '499 patent). The Office states the conflicting claims are not patentably distinct from the earlier patent claims.

B. **Claims 1-39** may be further subjected to a provisional double patenting rejection on the ground of nonstatutory obviousness-type double patenting as being unpatentable over the claims of the co-pending applications. The Office states that due to the large number of co-pending applications filed, this provisional rejection will be resolved at the time of allowance.

Applicant includes with this response a terminal disclaimer. Applicant submits that the filing of the terminal disclaimer overcomes the double patenting rejections. Therefore, Applicant respectfully requests that the double patenting rejections should be withdrawn.

CLAIM REJECTIONS 35 U.S.C. § 103: A & B

A. **Claims 1-21, 37 and 39** stand rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent Application Publication No. 2002/0023103 to Gagne in view of U.S. Patent No. 5,815,689 to Shaw et al. (hereinafter “Shaw”). Applicant respectfully traverses the rejection.

Independent Claim 1

Without conceding the propriety of the rejection and only to advance the prosecution of this application, Applicant amends **independent claim 1** to further clarify features of the claimed subject matter. Amended **claim 1** now recites a multi-media processing method, comprising (emphasis added):

providing multiple tracks each of which is capable of being associated with one or more digital data streams;
selectively representing the multiple tracks as a single track;

processing the digital data associated with the single track using a programmable software-implemented matrix switch in which multiple inputs can be routed to multiple outputs, the quantity of multiple inputs and the quantity of multiple outputs being scalable;

coupling one or more of a scalable plurality of input pins to a scalable plurality of output pins of a matrix switch filter;

reducing filter graph complexity, wherein computational and memory resources are reduced; **and**

processing overlapping tracks based on the source of the track if the multiple tracks have not been represented as a single track.

Applicant respectfully submits that no such method is disclosed, taught or suggested by Gagne and/or Shaw.

In addition to failing to teach all the elements of the claims as amended, Applicant respectfully submits that modification of Gagne by Shaw destroys the functionality of Gagne. A detailed explanation is given below in the section entitled “*The Modification Renders Primary Reference Unsatisfactory for Intended Purpose*”.

The combination of Gagne in view of Shaw fails to disclose, teach, or suggest processing based on a source of a track if the tracks are not represented as a single track

Gagne is directed towards arranging data of at least two data types with respect to a common internal time line of a meta-clip. See, Abstract. After data is arranged in the meta-clip, filters, effects or other operators affecting each clip can be applied to meta-clips, with some operators affecting each clip within the meta-clip and other operators affecting only clips of applicable data types within the meta-clip. See, paragraph [0079]. Within the meta-clip, some operators are applied to tracks based on their source. See, paragraph [0079].

In contrast, Applicant’s amended Claim 1 recites, “*selectively representing the multiple tracks as a single track;*” and “*processing overlapping tracks based on the source of the track if the multiple tracks have not been represented as a single track;*”. These recited features are not disclosed, taught or suggested in Gagne.

Additionally, Applicant submits that Shaw fails to compensate for the deficiencies of Gagne. Shaw is directed towards synchronizing processing between two or more data

streams and for rate matching between two different hardware clocks that may drift with respect to one another (abstract). The Office cites Shaw for allegedly teaching “the implementation of the software implemented matrix switch [...] that is programmable to route multiple switch inputs to multiple switch outputs and at least two of the inputs being capable of competing for a single output during a common time period” (Office Action, page 3-4). As amended, Claim 1 now recites “*selectively representing the multiple tracks as a single track;*” and “*processing overlapping tracks based on the source of the track if the multiple tracks have not been represented as a single track;*”. To the extent that Shaw processes overlapping data, Shaw is directed towards synchronizing the data irrespective of the source of the data (col. 3, lines 28-31), and does not disclose, teach or suggest the elements of the amended claim.

Thus, Gagne and Shaw, alone or in combination (assuming for the sake of argument that they can be combined), do not disclose, teach or suggest “*selectively representing the multiple tracks as a single track;*” and “*processing overlapping tracks based on a source of a track if the multiple tracks have not been represented as a single track;*”, as recited in Applicant’s Claim 1. Accordingly, Applicant respectfully submits that the evidence relied upon by the Office does not support the rejections made under §103, and Applicant respectfully requests the § 103 rejection of claim 1 be withdrawn.

The combination of Gagne in view of Shaw fails to disclose, teach, or suggest reducing filter graph complexity in order to reduce computational and memory resources

The Office states, without support, that the “implementation of the programmable matrix switch (programmable filter matrix) would reduce filter graph complexity and save memory resource (sic)” (Office Action, pages 4, 7). This assertion is allegedly directed towards the element of “*reducing filter graph complexity, wherein computational and memory resources are reduced*”, as recited in independent Claim 1. Applicant respectfully submits this element is not disclosed, taught, or suggested by Gagne or Shaw, either alone or in combination, and respectfully requests the 35 U.S.C. §103 of Claims 1 be withdrawn. If the Office maintains this rejection, Applicant respectfully requests an explicit citation of the references or an explanation of how the references disclose the element.

The Modification Renders Primary Reference Unsatisfactory for Intended Purpose

The MPEP states, “if proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification” (MPEP §2143.01 V.) For example, modifying Gagne to include the programmable software-implemented matrix switch of Shaw would render Gagne unsatisfactory for its intended purpose. In particular, Gagne groups audio and video tracks together in a meta-clip. Gagne explains how multiple data types are grouped together into a single meta-clip, as shown below:

Gagne, paragraph 73:

FIG. 10 shows a meta-clip 202 for blimp 200. As shown, in this example meta-clip 202 comprises an animation clip 204 which represents the animated blimp, three video clips 208, 212 and 216 which each represent video information

which is displayed on the television 218 located on the side of the blimp. Each of video clips 208, 212 and 216 has a corresponding audio clip 220, 224 and 228 which are intended to be synchronized with the videos. In addition to the audio clips for the videos, two audio clips 232 and 236 are included and represent suitable engine noises to be used when the engines 240 on blimp 200 are operating.

In contrast, Shaw requires the video and audio tracks to be processed separately. The Office cited Shaw at col 27, lines 50-60 as allegedly teaching a programmable software-implemented matrix switch that is programmable to route multiple switch inputs to multiple switch outputs and at least two of the inputs being capable of competing for a single output during a common time period (Office Action, pages 4, 5, 6, and 7). Instead, Shaw describes that video and audio tracks must be processed separately as shown below:

Shaw, col. 27, lines 48-63:

...an audio mixing filter may mix multiple input pins instances into a single output pin instance in terms of processing. *Each input instance is of the same type and the filter may only support one type of input pin.* Such arrangement would also be an example of having multiple inputs to a single output (emphasis added).

The above citations demonstrate the antithetical operations of the Gagne and Shaw references. In Gagne, a meta-clip has multiple types of data, e.g. audio and video. Shaw explicitly states that each input instance is of the same type and the filter may only support one type of input pin. Shaw describes that a single data type is passed through a filter and also describes that input instances are created separately for an audio stream and video stream (Shaw, Figures 14, 15a and 15b, col 36, lines 23-32 (overview) and col 38, line 66 - col 39, line 7).

In contrast to Shaw, Applicant's specification discloses that a single matrix switch can process multiple types of media (Applicant's specification, page 22, line 23- page 23, line 2).

Thus, combining the aspect of Shaw that couples the input and output pins would destroy the functionality of Gagne because the Gagne reference groups data types together, and Shaw can only process a single data type through each pin. Therefore, the modification presented would render Gagne and Shaw inoperable.

Thus, there is no evidence to modify the references, as the modification would render the primary reference, Gagne, unsatisfactory for its intended purpose in combining data of at least two diverse types to be arranged with respect to a common internal time line of a meta-clip. Applicant submits that the evidence relied upon by the Office does not support the rejections made under §103.

Dependent Claims 2-21 depend from independent Claim 1 and are allowable by virtue of this dependency, as well as for additional features that they recite. Applicant respectfully requests the § 103 rejections of these claims be withdrawn.

Independent Claim 37

Without conceding the propriety of the rejection and only to advance the prosecution of this application, Applicant amends **independent claim 37** to further clarify features of the claimed subject matter. Amended **claim 37** now recites a data structure embodied on a computer-readable storage medium executable on a computing device, the data structure comprising (emphasis added):

one or more portions associated with at least one track of a multi-media editing project, individual tracks being associated with one or more data stream sources; and

one or more portions **selectively** associated with a composite, the composite comprising at least one track, said data structure being configured for use in programming a software-implemented matrix switch which is configured to provide a data stream defined by the multi-media editing project, the matrix switch being configured to route a scalable number of inputs to a scalable number of outputs;

wherein processing overlapping tracks based on a source of a track if the one or more portions have not been associated with a composite;

wherein the matrix switch being configured to support implementation of a cascaded architecture utilizing feedback paths;

wherein the data structure comprises a programming grid to couple one or more of a scalable plurality of input pins to a scalable plurality of output pins of the matrix switch filter.

Applicant respectfully submits that no such data structure is disclosed by Gagne and/or Shaw.

In addition to failing to teach all the elements of the claims as amended, Applicant respectfully submits that modification of Gagne by Shaw destroys the functionality of Gagne. A detailed explanation is given above in the section entitled “*The Modification Renders Primary Reference Unsatisfactory for Intended Purpose*”.

The combination of Gagne in view of Shaw fails to disclose, teach, or suggest processing based on the source of the track if the tracks are not represented as a composite

With regard to **Independent Claim 37**, and as mentioned above with respect to claim 1, the cited references fail to disclose, teach or suggest “*processing overlapping*

tracks based on the source of the track if the one or more portions have not been associated with a composite.” Thus, independent claim 37 is allowable over the cited references for at least similar reasons as claim 1. Accordingly, Applicant respectfully submits that Claim 37 is not obvious over Gagne in view of Shaw, and Applicant respectfully requests the Examiner withdraw the rejection of this claim.

Dependent claims 38 and 39 depend from independent claim 37 and are allowable by virtue of this dependency, as well as for additional features that they recite. Applicant respectfully requests the §103 rejections of these claims be withdrawn.

B. Claims 22-36 and 38 stand rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent Application Publication No. 2002/0023103 to Gagne in view of U.S. Patent No. 6,266,053 to French et al. (hereinafter “French”) and further in view of U.S. Patent No. 5,815,689 to Shaw et al (hereinafter “Shaw”). Applicant respectfully traverses the rejection.

Without conceding the propriety of the rejection and only to advance the prosecution of this application, Applicant amends **independent claim 22** to further clarify features of the claimed subject matter. Amended **claim 22** now recites a method, comprising (emphasis added):

providing multiple tracks each of which is capable
of being associated with one or more digital data streams;
**processing overlapping tracks based on a source
of a track if the multiple tracks have not been
represented as a single track;**
grouping a particular set of operations on the tracks
to provide a group upon which operations can be performed
that do not affect tracks that are not in the group;

wherein the grouping comprises defining a first hierarchical tree structure that represents a media project of which the tracks comprise a part; and

using the hierarchical tree structure to program a software-implemented matrix switch configured to process content of the tracks, the matrix switch being configured to route a scalable number of inputs to a scalable number of outputs;

coupling one or more of a scalable plurality of input pins to a scalable plurality of output pins of a matrix switch filter; and

reducing filter graph complexity, wherein the computational and memory resources are reduced.

Applicant respectfully submits that no such method is disclosed by the combination of Gagne in view of French and further in view of Shaw

The combination of Gagne in view of French and further in view of Shaw fails to disclose, teach, or suggest processing based on the source of the track if the tracks are not represented as a single track

With regard to **Independent Claim 22**, and as mentioned above with respect to claim 1, the cited references fail to disclose, teach or suggest “*processing overlapping tracks based on a source of a track if the multiple tracks have not been represented as a single track.*” Thus, independent claim 22 is allowable over Gagne and Shaw for at least similar reasons as claim 1.

Claim 22 additionally recites the elements, “*wherein said grouping comprises defining a first hierarchical tree structure that represents a media project of which the tracks comprise a part; and using the hierarchical tree structure to program a software-implemented matrix switch configured to route a scalable number of inputs to a scalable*

number of outputs". The Office cites French as teaching "representing a media project as a tree structure" (Office Action, page 6).

Applicant submits that French fails to remedy the deficiencies of Gagne and Shaw as described above. Rather, French describes a technique for representing a time varying visual scene as a directed acyclic graph of data and operators that generates a sequence of image frames over specified time intervals. *See*, Col. 3, lines 47-50. Each node in the graph represents an object oriented functional module that inherits a temporal as well as a spatial context, accepts and/or generates parameters, and processes some aspect of the scene. *See*, Col. 3, lines 51-54. Directed data paths in the graph represent the flow of context, data (including media data) and/or control parameters as the graph is traversed from one node to another. *See*, Col. 3, lines 54-57.

Accordingly, Applicant respectfully submits that Claim 22 is not obvious over Gagne in view of French and further in view of Shaw, and Applicant respectfully requests the Examiner to withdraw the rejection of this claim.

The combination of Gagne in view of French and further in view of Shaw fails to disclose, teach, or suggest reducing filter graph complexity in order to reduce computational and memory resources

With regard to **Independent Claim 22**, and as mentioned above with respect to claim 1, the cited references fail to disclose, teach or suggest "*reducing filter graph complexity, wherein computational and memory resources are reduced.*" Applicant submits that French fails to remedy the deficiencies of Gagne and Shaw as described above. Thus, independent claim 22 is allowable over Gagne in view of French and

further in view of Shaw for at least similar reasons discussed above, and Applicant respectfully requests the § 103 rejection of this claim be withdrawn.

Dependent claims 23-36 depend from independent claim 22 and are allowable by virtue of this dependency, as well as for additional features that they recite. Applicant respectfully requests the § 103 rejections of these claims be withdrawn.

Applicant respectfully submits that the cited references do not render the claimed subject matter obvious and that the claimed subject matter, therefore, patentably distinguishes over the cited references. For all of these reasons, Applicant respectfully requests the §103(a) rejection of these claims should be withdrawn.

CONCLUSION

Claims 1-39 are in condition for allowance. Applicant respectfully requests reconsideration and prompt allowance of the subject application. If any issue remains unresolved that would prevent allowance of this case, the Office is requested to contact the undersigned attorney to resolve the issue.

Respectfully submitted,

Lee & Hayes, PLLC

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By: /Kristina M. Kuhnert/
Kristina M. Kuhnert
Reg. No. 62,665

Shirley Lee Anderson
Reg. No. 5,7763